

Study on the current surveillance IT landscape and resulting options for CISE

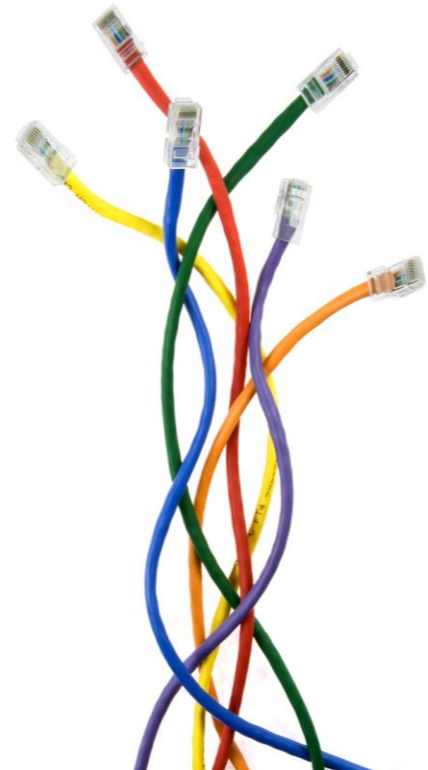
Study Results

TAG Meeting 04.09.2012



Agenda

- Background of the study
- Analysis of the existing landscape
- Analysis of the options for CISE



Background of the study

How to read the report

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Background of the study

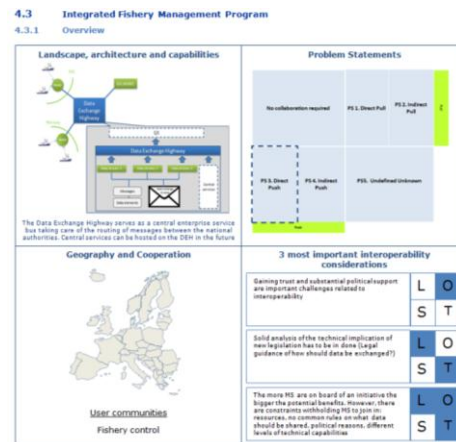
Existing landscape was analysed based on a set of preliminary agreed questions

Analysis of the existing landscape (AS-IS)

Work performed

- 23 Interviews
- Request and analysis of existing documents
 - 24 systems
 - 11 initiative

Key outcomes



- 2-5 page description of each system/initiative focusing on:
 - General information
 - Organisation
 - Data
 - Architecture
 - Capabilities
 - Security
 - Cost and value
- Summarised conclusions of the existing landscape



Define



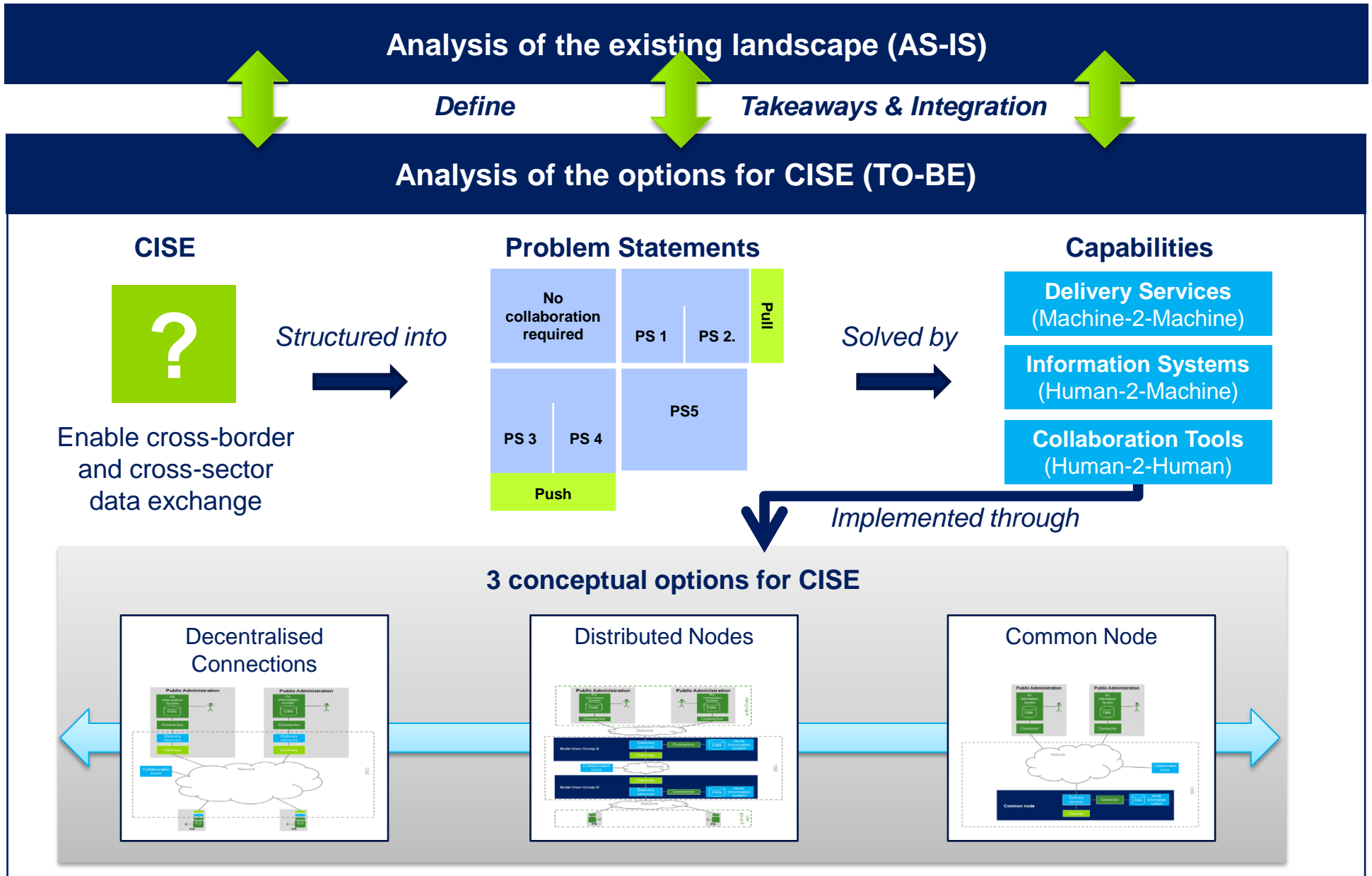
Re-use & Integrate



Analysis of the options for CISE (TO-BE)

Background of the study

3 conceptual options were defined based on the analysis of the existing landscape



Analysis of the existing landscape

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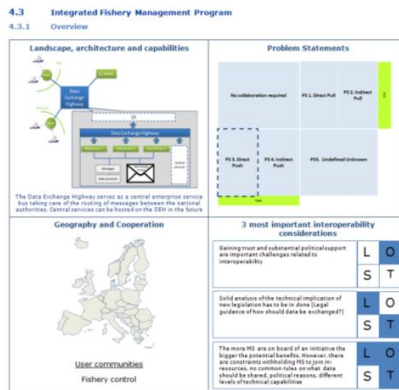
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Analysis of the existing landscape

Considerations related to the analysis of the existing landscape

2-5 page description of each system/initiative focusing on:



- *General information*
 - *Background*
 - *Users Communities involved*
 - *Data*
- *Technical dimension*
 - *Architecture*
 - *Capabilities*
 - *Security*
- *Addition information*



Conclusions of the existing landscape

- List of systems and initiatives in scope was agreed upon by DG MARE and should be representative for the wider maritime community.
- Focus of the analysis was on technical aspects.
- The level of detail of the information gathered is based on a questionnaire created during the preparation phase and validated by DG MARE.
- Additional data was gathered based on the feedback received from DG MARE.
- An in-depth interview has been conducted for 23 of the systems/initiatives in scope, targeting a sample set of systems and initiatives that will represent a broad spectrum of the maritime surveillance landscape.
- The correctness and completeness of the data presented in this report depends on the quality of the data provided by the stakeholders and their willingness to participate.
- Each system/initiative description has been sent to the representative for validation

Analysis of the options for CISE

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Analysis of the options for CISE

Considerations related to the introduction of the key concepts

Introduction of the key concepts (4.1)

- **Components to describe the options**
 - The architecture of each option has been described using the same set of components.
 - The definitions of the components are conceptual. All capabilities provided by the components are required for CISE. However, the allocation of the capabilities across the different components should not be seen as fixed.
- **Guiding principles**
 - Based on our understanding of the needs for CISE and the governance principles defined by the TAG.
 - They provide the basis for defining the options in scope.

Conceptual options for CISE (4.2)

Mapping of the existing landscape onto the options (4.3)

Evaluation of the options against the CISE requirements (4.4)

General conclusions related to the analysis of the options (4.5)

Analysis of the options for CISE

Considerations related to the conceptual options for CISE

Introduction of the key concepts (4.1)

Conceptual options for CISE (4.2)

- **3 conceptual options:** the options for CISE are conceptual options. Any reference to who should build, finance and host the architectural components has been avoided. The options were defined independently from any specific system or initiative within the existing landscape.
- **Hybrid option:** though a hybrid solution can be an option, it should not be the goal of CISE to let every Public Administration, Member States or User community freely decide which option they want to implement. In the end, one option needs to be chosen to connect them all.
- **Impact:** some general statements on the impact of the option on the main stakeholders has been defined, though the real impact will only be clear once the detailed architecture and related governance structures have been chosen.
- **Outstanding questions:** In order to make an actual decision on which option should be selected for CISE several outstanding questions need to be addressed first, related to various aspects such as governance, legislation, use cases, etc.

Mapping of the existing landscape onto the options (4.3)

Evaluation of the options against the CISE requirements (4.4)

General conclusions related to the analysis of the options (4.5)

Analysis of the options for CISE

Considerations related to the mapping of the existing landscape onto the options

Introduction of the key concepts (4.1)

Conceptual options for CISE (4.2)

Mapping of the existing landscape onto the options (4.3)

- For each of the systems and initiatives 2 aspects were described:
 - Key takeaways for the establishment of CISE:
 - Key takeaways for option 1**
 - Key takeaways for option 2**
 - Key takeaways for option 3**

Systems/initiatives that have a similar architecture and/or provides many takeaways for a specific option
 - Other:** *systems and initiatives that do not directly fit into any of the options. Nevertheless they can still provide useful takeaways and lessons learned*
 - How can the system/initiative be integrated in CISE (*grouped according the typology*)
- The mapping is based on the independent analysis, and might not be exhaustive.

Evaluation of the options against the CISE requirements (4.4)

General conclusions related to the analysis of the options (4.5)

Analysis of the options for CISE

Considerations related to the evaluation of the options against the CISE requirements

Introduction of the key concepts (4.1)

Conceptual options for CISE (4.2)

Mapping of the existing landscape onto the options (4.3)

Evaluation of the options against the CISE requirements (4.4)

- **CISE requirements:** the CISE requirements were defined by Deloitte, based on our best understanding of the needs for CISE, and have not been agreed upon by the Member States, the TAG member and/or the European Commission.
- **Score:** An short rationale has been provides for each score. Additional arguments might exist that can influence the scoring.
- No actual decision can be taken based upon this scoring. First the requirement need to be agreed upon by the appropriate stakeholders and revised accordingly. Secondly, weight need to be assigned to each of the requirements / scores in order to make a rational calculation of the best for CISE from a technical perspective.

General conclusions related to the analysis of the options (4.5)

Analysis of the options for CISE

General conclusions related to the analysis of the options

Introduction of the key concepts (4.1)

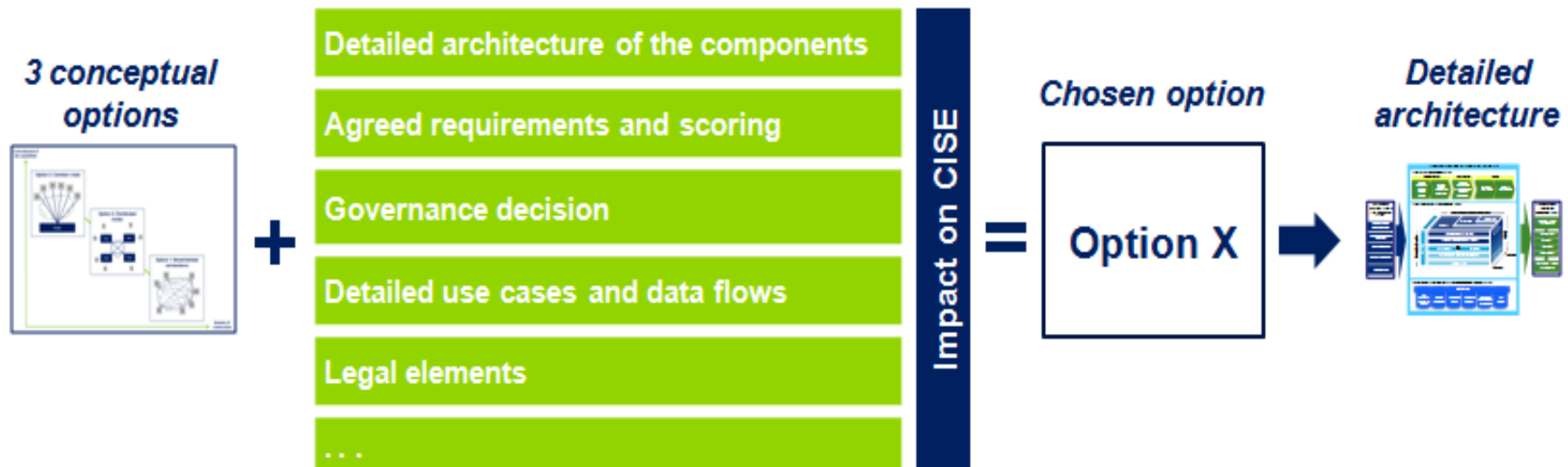
Conceptual options for CISE (4.2)

Mapping of the existing landscape onto the options (4.3)

Evaluation of the options against the CISE requirements (4.4)

General conclusions related to the analysis of the options (4.5)

- Which elements are still missing to choose an option:



Appendices

Current progress

Currently the study is in final phase, with last comments to the report to be addressed



Complete

(validated and signed off by DG Mare)



95% Complete

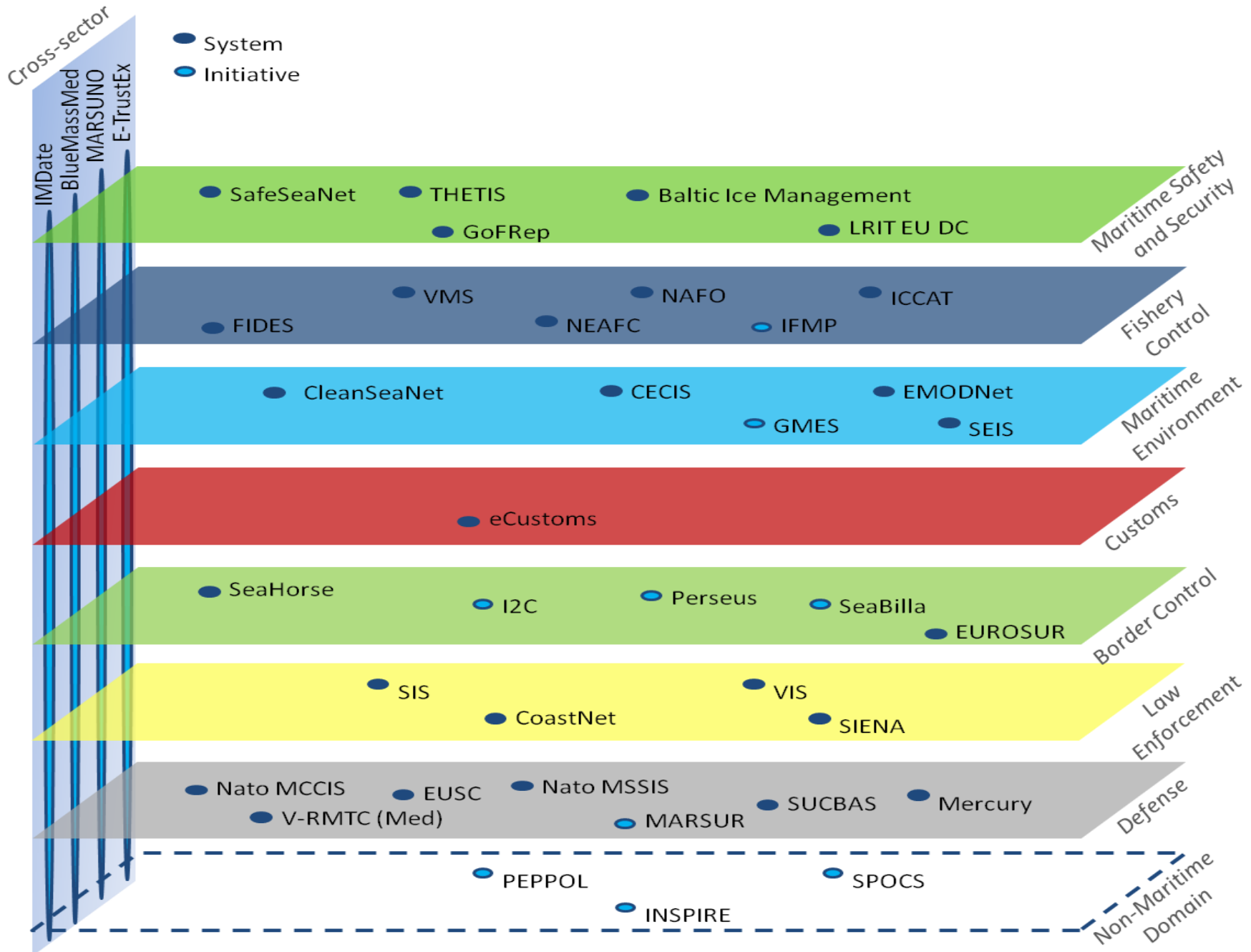
Remaining elements:

- Finalise the last comments to the report
- Clarify last outstanding questions

Release in Sept

Main results

All communities are represented by their set of systems/initiatives

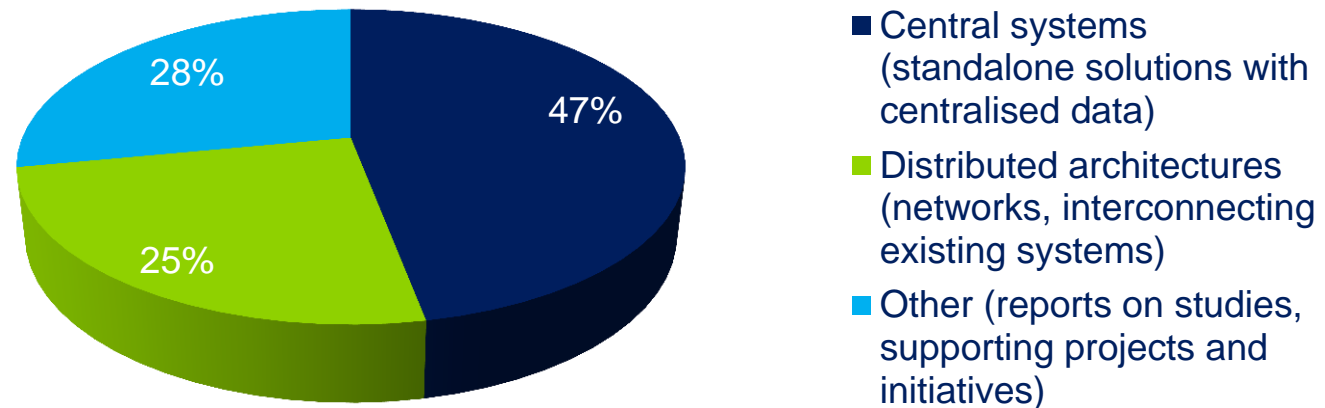


Main results

Current landscape is very diverse across different communities

- 70% of the analysed landscape are operational systems with highly varying size purpose and level of coverage
- Almost 90% of operational systems exchange data via the Internet in a secure way. Only 4 systems supports other networks (S-TESTA, NATO Restricted WAN)
- Only 4 operational systems (10%) have more than 1000 users and cover most of the member states:
 - *EUROSUR*
 - *CleanSeaNet*
 - *SafeSeaNet*
 - *SIENA*
- Types of architecture used in the landscape varies significantly

Architectures used in the existing landscape

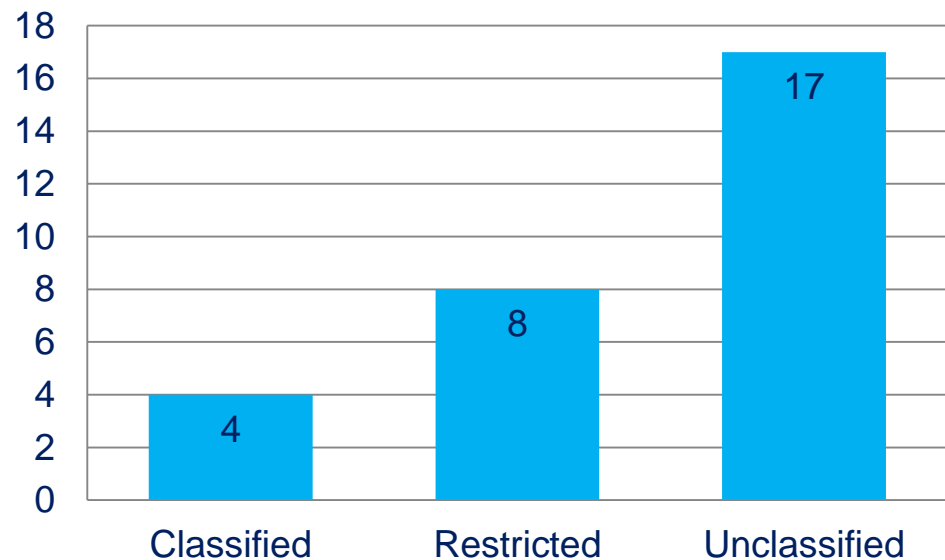


Main results

Current landscape is very diverse across different communities

- Only 3 initiatives (7%) are focused on cross-sector collaboration:
 - *BlueMassMed*,
 - *MARSUNO*
 - *IMDate*
- Around 70% of the analysed landscape is focused on exchange of near real time data. Type of data in the rest of the systems can vary from real time to static reports.
- Around 50% of the landscape is focused on exchange of data using standardized protocols, around 30% support routing and translation functionality.
- Around 60% are focused on the exchange of unclassified data.

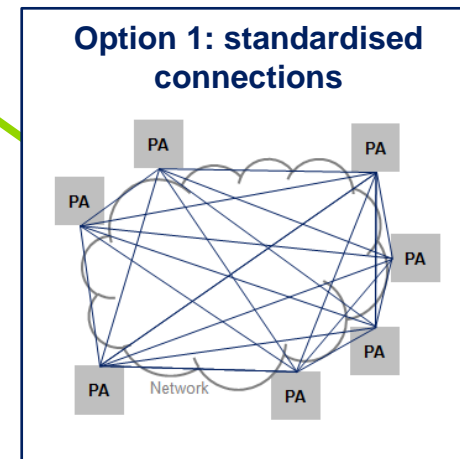
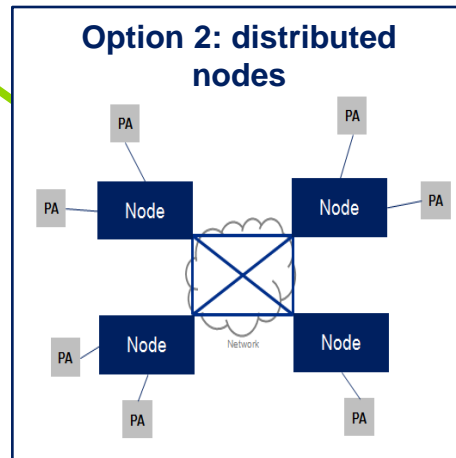
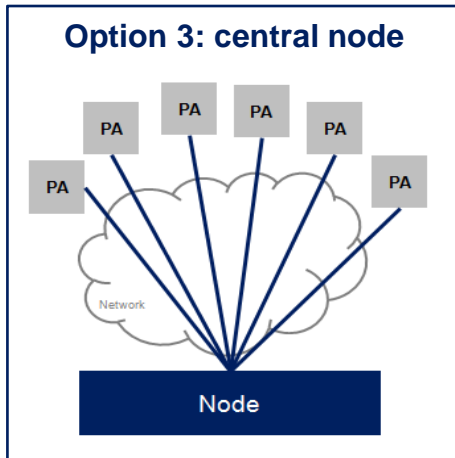
Level of data classification



Options for CISE

Three conceptual options were defined based on existing landscape and problem statements

Centralisation of the services

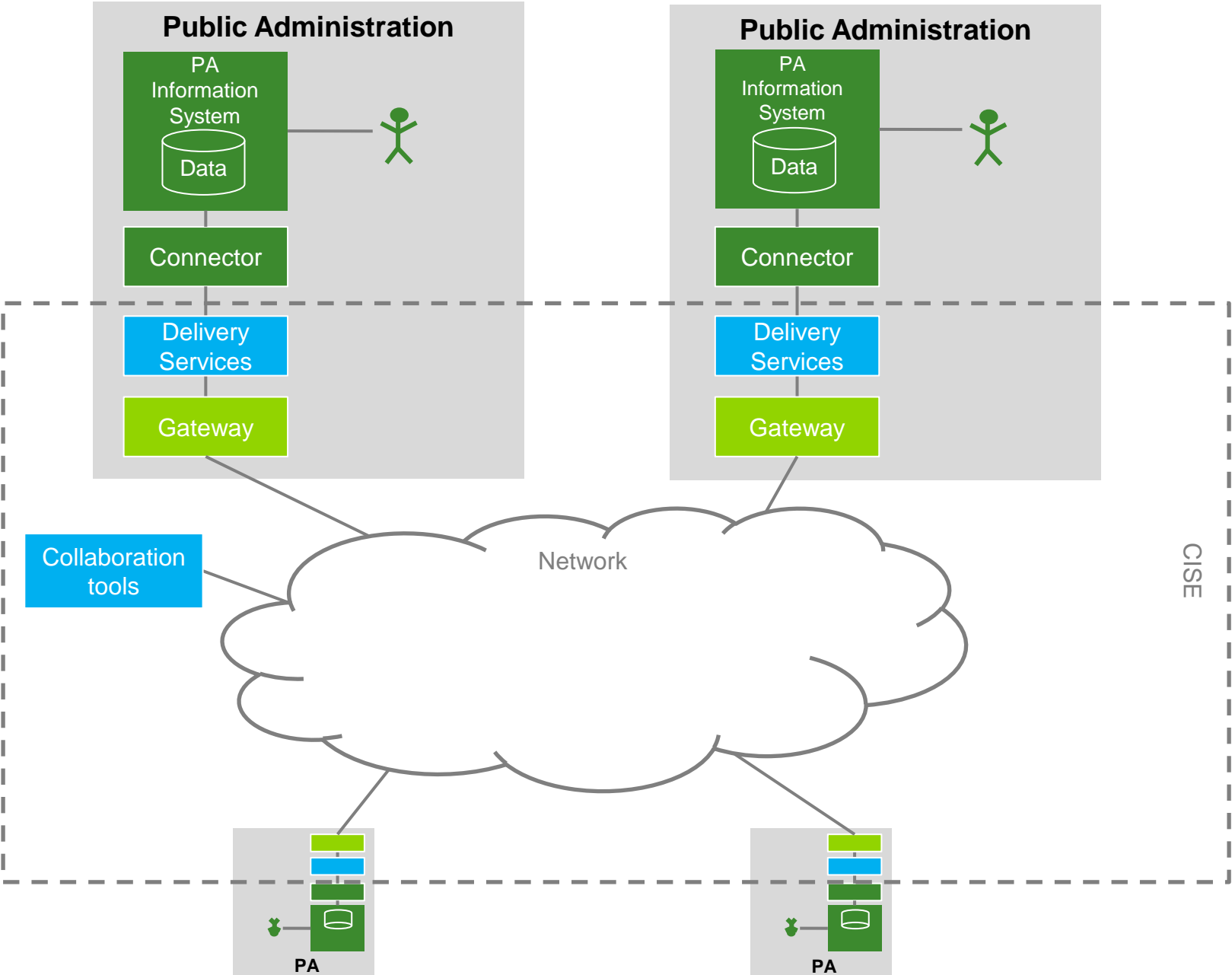


Number of connections



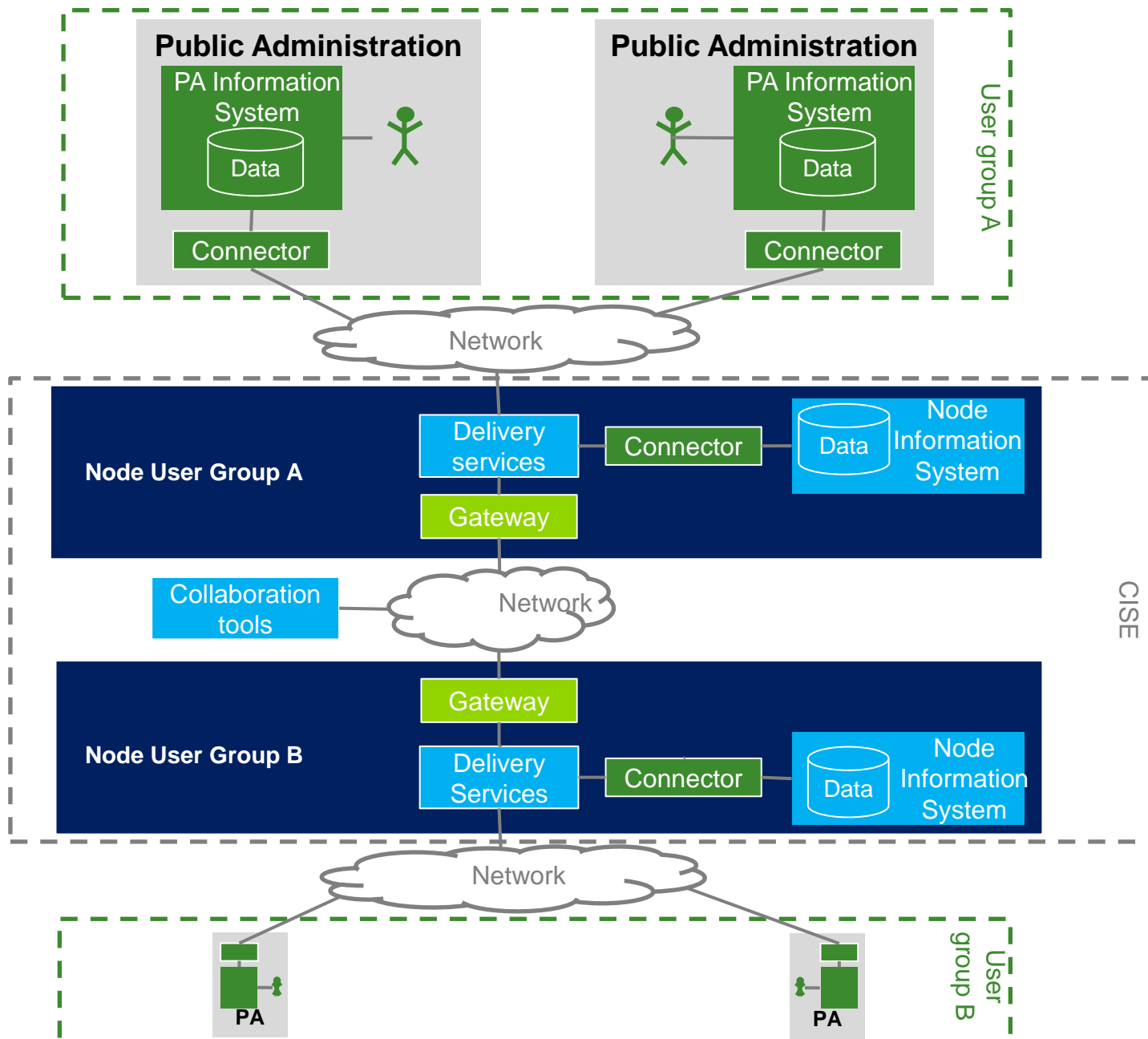
Options for CISE

Option 1: Decentralised connections



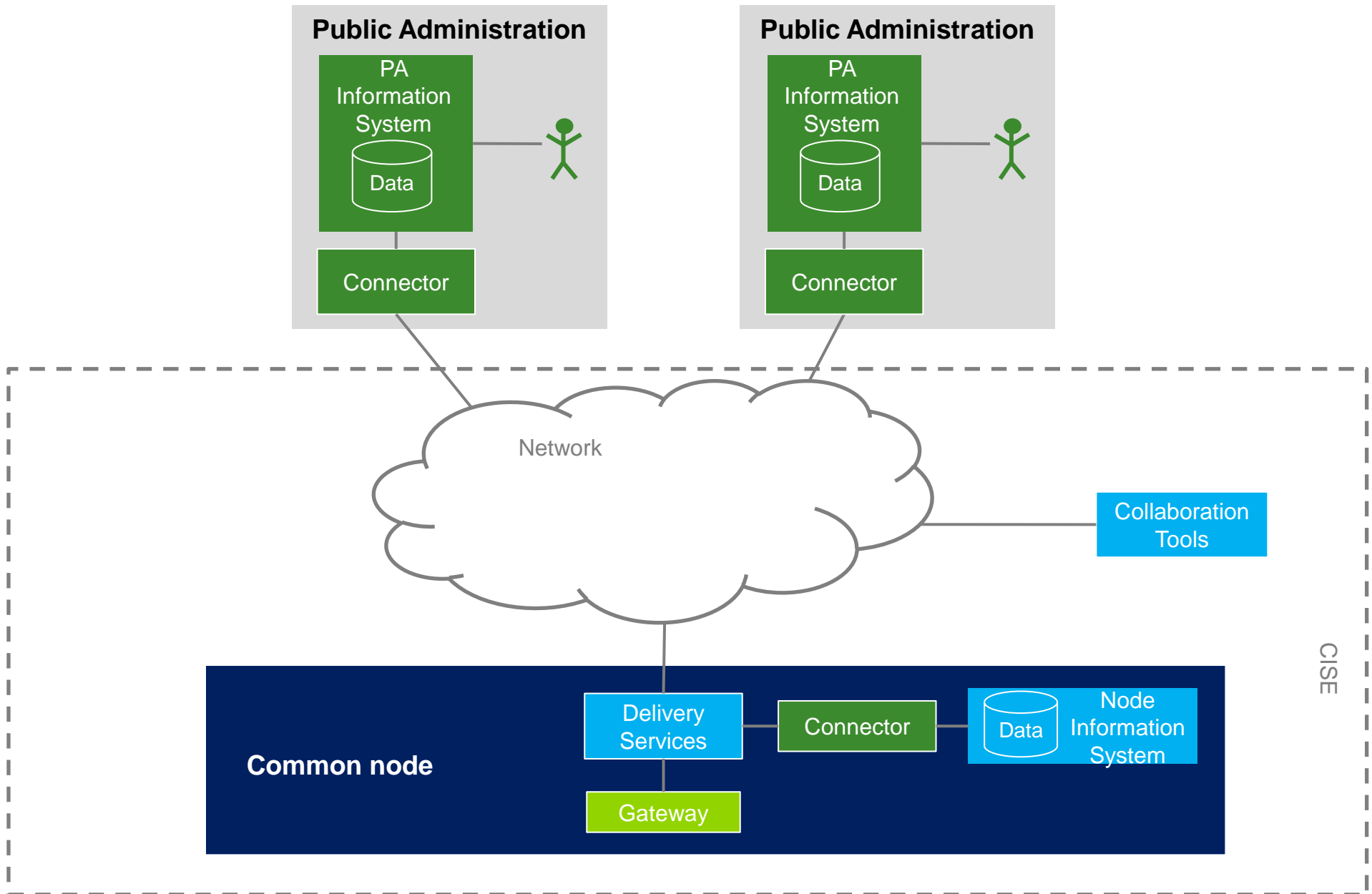
Options for CISE

Option 2: Distributed nodes



Options for CISE

Option 3: Common node



Impact on stakeholders

Real impact on stakeholders will highly depend on the chosen option and future architectural decisions

Regardless of the chosen option:

- Common data model and common data formats need to be agreed on and defined for CISE
- Every PA has to establish a Connector on top of its existing Information System
- Every PA has to map the semantics of its own data sets onto the common data model defined for CISE.
- Impact on specific PAs will highly depend on future reuse/integration decisions for their particular systems

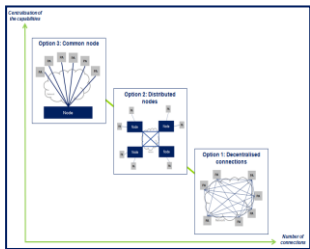
Depending on the chosen option:

Option 1	Option 2	Option 3
<ul style="list-style-type: none">• Every PA has to deploy its own instance of the Delivery Services and the Gateway.• All data is decentralised.	<ul style="list-style-type: none">• A PA does not need to deploy its own Delivery Services and Gateway but can use the ones offered on the distributed node.• Raw data remains in the ownership of PA. However, some data might be copied at the level of the distributed node for correlation purposes.	<ul style="list-style-type: none">• A PA does not need to deploy its own Delivery Services and Gateway but can use those offered by the common node.• Raw data remains in the ownership of PA. However, some data might be copied at the level of the common node for correlation purposes.

Choosing the option

Which elements are still missing to choose an option?

3 conceptual options

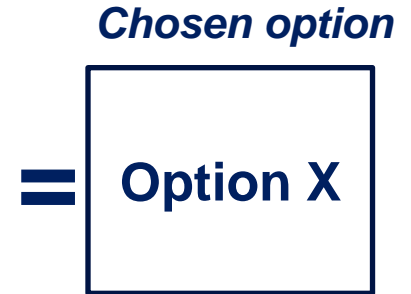


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Additional elements

Detailed architecture of the components	<ul style="list-style-type: none"> Possible technologies used for each component Reuse/integration decisions Information security standards Identity and access management
Agreed requirements and scoring	<ul style="list-style-type: none"> Agreement on the list of CISE requirements Agreement on weights for requirements
Governance decision	<ul style="list-style-type: none"> Structure of governance bodies Governance around nodes
Detailed use cases and data flows	<ul style="list-style-type: none"> Results of cooperation project
Legal elements	<ul style="list-style-type: none"> Existing legal constraints
...	...

Impact on CISE



Detailed architecture

